

Commonwealth of Pennsylvania
DEPARTMENT OF PUBLIC INSTRUCTION
Harrisburg

Manual of Instruction

COURSE 15

**PRODUCTION, CONSERVATION, AND
PROCESSING OF FOOD FOR
FAMILY USE**

Food Production War Training Program

Bldg.

30.7

38ma

no.15

Prepared under the authority of the State Board of Vocational
Education by the Department of Agricultural Education,
The Pennsylvania State College



THE PENNSYLVANIA
STATE COLLEGE
LIBRARY



DEPARTMENT OF INDUSTRIAL
EDUCATION

1584

V 6307
P38 ma
no. 15

PREFACE

Course 15, "Production, Conservation, and Processing of Food for Family Use," is one of a series of courses which have been prepared in the "Food for Victory" program. The objective in this manual is to set forth in brief form the immediately important phases in the whole problem of Production, Conservation, and Processing of Food for Family Use in Pennsylvania.

This manual is organized into six sections:

- I. Suggested Course Calendar
- II. Introduction
- III. Suggested Unit Outlines
- IV. Examples of Job Breakdown (Agricultural Instructor Training)
- V. Suggested Reference Material
 - Books (A)
 - Bulletins and Circulars (B)
 - Visual Aids (C)
- VI. Suggested Approved Practices Which Should Develop From The Course

The manual was prepared by Russell B. Dickerson, Itinerant Teacher-Trainer, Specialist in Young and Adult Farmer Instruction, Department of Agricultural Education, The Pennsylvania State College. The preparation was directed by H. C. Fetterolf, Chief, Agricultural Education, State Department of Public Instruction; and Henry S. Brunner, Head, Department of Agricultural Education, The Pennsylvania State College.

Special recognition is given to Professors P. T. Ziegler, N. B. Guerrant, J. W. Nicholas, A. L. Beám, F. J. Doan, C. D. Dahle, E. J. Anderson, Elizabeth W. W. Dye, W. B. Mack, F. N. Fagan, J. G. Stout, and P. H. Margolf, for invaluable assistance and guidance in setting up the lesson units and the accompanying suggested topics for study and discussion, and in deciding upon the current references pertinent to the Production, Conservation, and Processing of Food for Family Use.

I. SUGGESTED COURSE CALENDAR

Unit Number	Name of Unit	Date of Meeting
I	Surveying the Total Food Situation in War-Time	
II	Developing a Knowledge of the Nutritional Requirements of the Family	
III	Planning the Family Food Supply in War-Time	
IV	Producing, Conserving, and Processing Vegetables for Family Use	
V	Producing, Conserving, and Processing Fruits and Fruit Products for Family Use	
VI	Producing, Conserving, and Processing Eggs and Poultry Meat for Family Use	
VII	Producing, Conserving, and Processing Milk and Milk Products for Family Use	
VIII	Producing, Conserving, and Processing Meats and Meat Products for Family Use	
IX	Producing, Conserving, and Processing Honey, and Maple Products for Family Use	
X	Producing, Conserving, and Processing Cereal Grains for Family Use	

II. INTRODUCTION

Course 15, "Production, Conservation, and Processing of Food for Family Use," is set forth in the Food Production War Training Program for the express purpose of providing systematic instruction in activities and skills related to increasing the family food supply.

This manual was prepared as a guide to teachers and supervisors in conducting instruction with adult classes in the OSYA "Food for Victory" program. It is designed to facilitate more effective preparation by the teachers undertaking to meet the emergency need in the family food supply.

Units and topics for study and discussion—The ten (10) lesson units containing suggested topics for study and discussion were selected after careful analysis of the whole problem of supplying food for families, in conference with heads and staff members of the departments of Animal Husbandry, Agricultural Biochemistry, Agricultural Engineering, Agronomy, Dairy Husbandry, Entomology, Home Economics, Horticulture, and Poultry Husbandry. The lesson units together with the accompanying topics for study and discussion are purely suggestive and it is expected that each unit, as well as individual lessons within the unit, will be modified to meet local conditions.

In many instances, topics for study and discussion other than those included under each unit will be considered important enough in certain sections of the commonwealth to be included along with, or instead of, some of those listed. It is expected also that one or more meetings will be necessary to give satisfactory instruction in some topics, or that one or more topics may constitute a full discussion for one meeting.

The aims and the topics for study and discussion set up in each of the ten units are applicable to the respective units but they are by no means considered all-inclusive. If any or all of the suggested topics for study and discussion are incorporated into a course of study, the suggested references will be found helpful to the busy teacher. They are cited for the express purpose of improving teacher efficiency.

References—The reference materials suggested on pp. 44-55 are considered pertinent to the immediate problem of producing, conserving, and processing food for family use. It is advised that at least one copy of each should be available for easy reference. It is assumed that a variety of references that are pertinent to the several units under the general theme of family food supply are already on hand in most schools. They will probably include texts,

bulletins, charts, film strips, specimens, and others, and they may furnish a large part of the reference material needed. It is important, however, to use the most current references for approved practices in meeting emergency problems. For example, continuous research in the frozen-food industry has definitely proven that steaming vegetables in the blanching process, rather than immersing them in boiling water, is essential for maximum conservation of nutrients and vitamins. Steam blanching should be undertaken, however, only when the appropriate equipment is available. Only the most recent references carry this information. The bulletins and circulars of the Pennsylvania Agricultural Experiment Station and of the Agricultural Extension Service are prepared for Pennsylvania conditions and they generally are the most reliable sources available. In addition, bulletins and circulars from other institutions which report the results of pertinent research on the several subjects relative to family food supply have been included.

Special attention is also directed to the set of manuals prepared for the Development and Conduct of Agricultural Commodity Courses¹ in 1943, as follows:

- Course 6 Increasing Milk Production
- Course 7 Increasing Poultry for Meat Production
- Course 8 Increasing Egg Production
- Course 9 Increasing Pork Production
- Course 10 Increasing Beef Production
- Course 11 Increasing Mutton, Lamb, and Wool Production
- Course 12 Increasing Soybean Production
- Course 14 Increasing Vegetable Production (Commercial)

It is suggested that the above manuals should serve as additional sources of reference both for the lesson outlines as they apply to problems of family food supply and for additional books, bulletins, and visual aids. Most of the references included in this manual (15) are in addition to the references included in the above listed manuals (6 to 14).

For the convenience of the teacher, the suggested reference materials on pp. 44-55 are given by key designations as follows: Books (A), Bulletins and Circulars (B), and Visual Aids (C). In preparing a lesson on any one topic, the teacher will find specific references to the different problems suggested. For example, (1) if the reference is A-1, p.7, it refers to material on page 7 of the first book listed—the material found there is considered pertinent to the topic suggested; (2) if the reference is B-3, it refers to bulletin No. 3 in the list and implies that the content of the entire bulletin is pertinent to the problem; (3) if C-6 is given as a reference, it will refer to item No. 6 in the Visual Aids list.

Approved practices—The importance of families' understanding, selecting, and adopting approved practices which can be put into effect at once cannot be over-emphasized. The suggested approved practices which should develop from the course are set forth on p. 56 as guides to the teacher. During each lesson, certain conclusions should be reached which should result in the adoption of approved practices by individual members. These will constitute the basis for the program of follow-up instruction.

Teachers who plan to organize and conduct Course 15 are urged to follow the suggestions given in another manual of instruction in the series entitled, "Suggestions To Teachers and Supervisors for the Development and Conduct of Agricultural Commodity Courses."² In addition, teachers are especially reminded to refer to OSYA Misc. Bulletins No. 2647, 2675-15, and 2687,³ which deal specifically with problems incident to the organization, conduct and equipment used in the prosecution of Course 15.

Systematic program—In OSYA Misc. 2681, it is specifically pointed out that instructors and students should devote at least 10 to 15 per cent of their time to systematic group instruction on Planning, at least 15 to 25 per cent on producing the food to be Processed, and not more than 75 per cent of their time to systematic group instruction on Processing food.

It is strongly advised that, during the 25 per cent of the time devoted to systematic instruction in Planning and Producing, every effort should be put forth to help individuals maintain and increase food production with what they have rather than to encourage the establishment of new enterprises like backyard poultry flocks, family orchards, family cows, etc., unless conditions particularly warrant such recommendations. Rather, it would be much more advisable to encourage members to prune and spray the grape vines, currant bushes, and fruit trees that are already established. This may be achieved to the extent of doing it on a community or neighborhood basis where, with proper care, one family's currant bushes, for example, would supply all the currants that the neighboring families could use.

In other words, anything that can be done to increase the family food supply efficiently with the existing livestock, plants, seed, feed, equipment and materials will relieve the pressure on critical materials like feed, seed, metal and chemicals, that are so much more essential to the farming industry.

¹ Food Production War Training Program, State Department of Public Instruction, Harrisburg, Pennsylvania.

² Ibid.

³ Ibid.

Cooperative effort—Teachers of agriculture and home economics are urged to consider carefully the challenge for cooperative community service that is inherent in Course 15. Joint planning and preparation in all aspects of the course are essential if those enrolled are to receive maximum benefit from the instruction.

It is conceivable that when Course 15 is cooperatively planned, operated and supervised by the teachers of agriculture and home economics in a given community, the teaching and supervisory responsibilities will be effectively shared. The teacher of agriculture will quite naturally assume responsibility for the teaching and/or supervising of the Production, and for parts of the Conservation, and Processing phases of the course. Similarly, the teacher of home economics will assume responsibility for parts of the Conservation, and for practically all of the Processing phases of the family food supply.

Systematic instruction in planning, producing, conserving, and processing food for family use will most effectively be done on a seasonal sequence basis. It will probably be desirable in each situation for the teachers to plan their work for the year. It must be understood that in planning the year's work, the units and the jobs within the units will not come in the order in which they are presented in the manual. It is believed, however, that the outlines as developed are concise enough for each job so as to permit the teachers to present the lessons in whatever order is advantageous for the work in their community. The objective, of course, is a year-round educational program in meeting family food needs. Such a program will function to greatest advantage only in situations where there is complete understanding and cooperation between the teacher of agriculture and the teacher of home economics.

Training members to do certain skills—It is conceivable that many members of Course 15 will desire, and need instruction in many skills connected with the problem of Producing, Conserving, and Processing Food for Family Use. An adaptation of Job Instructor Training from the Training Within Industry Service of the War Manpower Commission is applicable to the training of members enrolled in Course 15. Job Instructor Training operates upon the principle that, if the learner hasn't learned, the instructor hasn't taught.

In teaching individuals to develop the more crucial skills in connection with producing, conserving, and processing food for family use, an analysis of all activities incident thereto should be made by the instructor before the activity is taught to the group or to individuals.

How To Get Ready To Instruct and How To Instruct are two very important features of the Job Instructor Training Program. Both will be found most helpful in connection with the teaching of skills in Course 15.

How to get ready to instruct—There are four Get Ready points to observe in applying the Job Instructor Training procedure.

1. Have a time table—
 - a. Determine how much skill you want the learner to have.
 - b. Determine how soon you want him to have the skill.
2. Break down the job—
 - a. There is one right way to do every job.
 - b. There are Important Steps in every operation—a step is a logical segment of the operation when something happens to Advance the work.
 - c. There are a few Key Points to every step in the operation—a key point is anything in a step that might—
 - (1) Make or break the job.
 - (2) Injure the worker.
 - (3) Make the work easier to do, i.e. “knack,” “trick,” special timing, bit of special information.
3. Have everything ready—
 - a. The right tools, equipment, and materials.
4. Have the work place properly arranged—
 - a. Just as the worker will be expected to keep it.

How to instruct—In giving the instruction there are four steps to follow.

Step I. Prepare the learner—

- a. Get his complete attention on the job.
- b. Find out what he already knows about the job.
- c. Get him interested in learning the job, Show its importance.
- d. Place him in correct position.

Step II. Present the operation—

- a. Tell, show, illustrate, and question.
- b. Take up one point at a time.
- c. Stress key points.
- d. Point out safe working habits.

Step III. Try out his performance—

- a. Have him perform the job.
- b. Have him tell and show you.
- c. Have him explain key points.

- d. Ask questions and correct errors.
- e. Continue until you know he knows.

Step IV. Follow up—

- a. Put him on his own.
- b. Advise him clearly what to do in emergencies.
- c. Check his work on the job to make certain he is working correctly.

The Job Break-Down, in how to get ready to instruct is especially well-adapted to the analysis of the activities that are to be taught during the course. With the assistance of the subject matter specialists in the several departments, examples of the job break-down have been developed for each of the units. These are given on pp. 30-43. They are intended to serve as patterns which teachers may follow in "breaking-down" other activities for the purpose of teaching new skills.

III. SUGGESTED UNIT OUTLINES

UNIT I. SURVEYING THE TOTAL FOOD SITUATION IN

WAR-TIME

- A. Teaching aims—To develop the ability of the family—
1. To recognize the scope of the total food situation in war-time.
 2. To analyze the factors that influence maximum production, conservation, and processing of food for family use.
 3. To discover the need for home produced, conserved, and processed food for family use.
- B. References for this unit—(see key list on pp. 44-55)
1. (A)—1,2,3,4,25,27,
 2. (B)—102,125
 3. (C)—1,
- C. Suggested topics for study and discussion—
1. Discovering the need for home production, conservation, and processing of food for family use. A-1; A-2; A-3; A-4.
 - a. Kinds of foods and quantities of each needed for: B-192
 - (1) Our armed forces—at home and abroad
 - (2) For lend-lease
 - (3) For civilian use
 - (4) For the average family
 - b. Present supplies and probable trend.
 - c. Prices and probable trend.
 - d. The labor situation and probable trend.
 - e. Feed, seed, fertilizer, machinery, and supplies—availability and probable trend.
 - f. Adjustments needed to meet the changing conditions. A-25, p.372-379.
 - g. Financing the food for family use enterprises.
 - (1) Secure credit and credit information from:
 - (a) The local bank
 - (b) The production credit association
 - (c) The farm security administration
 - (d) The commodity credit corporation
 - (e) The livestock exchange
 - (f) Other sources

UNIT II. DEVELOPING A KNOWLEDGE OF THE NUTRITIONAL REQUIREMENTS OF THE FAMILY

- A. Teaching aims—To develop the ability of the family—
1. To appreciate the relation of diet to physical fitness as fundamental to efficient living. "You Are What You Eat."
 2. To analyze the family needs so that each individual's dietary requirements will be met daily.
 3. To understand the principles involved in the "Basic Seven" so that home produced foods will make for a well-rounded, optimal diet with resulting improvements in the health of the family.
- B. References for this unit—(see key list on pp. 44-55)
1. (A)—1 to 7 incl., 25, 28 to 33 incl., 37, 41
 2. (B)—63, 64, 103, 125, 126
 3. (C)—2-8 incl., 112
- C. Suggested topics for study and discussion—
1. The national nutrition program and its relation to the individual and to family groups. A-25, p.38-402; A-41, Sec.2,3; A-33; A-29
 2. The dietary standards for different individuals according to age, condition, and occupation as set up by the Committee on Foods and Nutrition of the National Research Council. A-33, Chs. 7 to 10
 3. Practical suggestions for conservation of nutrients according to newer knowledge of food values. A-33, Ch.11; A-41, Ch.1, Sec.1; A-41, Ch.1, Sec.4

UNIT III. PLANNING THE FAMILY FOOD SUPPLY IN WAR-TIME

- A. Teaching aims—To develop the ability of the family—
1. To meet the needs of the family for an adequate diet of home-produced, conserved, and processed foods.
 2. To handle these foods in a manner that will conserve the nutrients from harvesting to ultimate consumption.
 3. To provide adequate land, buildings, equipment, materials, and livestock needed to produce the necessary food for the family.
- B. References for this unit—(see key list on pp. 44-55)
1. (A)—1 to 9 incl., 12,39,40
 2. (B)—10,68,90,91,113-117incl.,120,125,126,127
 3. (C)—2-9incl.,112
- C. Suggested topics for study and discussion—
1. Determining the kinds (including varieties and breeds), and quantities of home-grown foods necessary to provide an adequate diet according to Unit II. A-6 (inside front and back covers); A-7, Ch.4; B-113; B-125; A-39, Ch.5.
 - a. The seven basic food groups.
 - (1) Green and yellow vegetables
 - (2) Oranges, tomatoes, grapefruit
 - (3) Potatoes and other vegetables and fruits
 - (4) Milk and milk products
 - (5) Meat, poultry, fish, or eggs
 - (6) Bread, flour and cereals
 - (7) Butter and fortified margarine
 2. Determining the kinds and amount of land and equipment necessary. A-7, Ch.5; B-113.
 - a. Vegetable garden
 - b. Fruit plantings—tree and small fruits
 3. Determining the kinds and numbers of chickens, fish, dairy animals, and meat animals necessary to supply the family food requirements. A-7, Ch.5; A-40, Ch.1; B-113; B-114; B-117; B-120.
 - a. Consider the facilities necessary for livestock enterprises
 - (1) Land
 - (2) Buildings and equipment
 - (3) Grain, hay, and pasture

4. Determining the feed requirements of livestock for family food production
 - a. Grain
 - b. Hay
 - c. Pasture
 - d. Silage
 - e. Straw

}	for	Dairy cattle, beef cattle, hogs, sheep, poultry, goats, and rabbits B-90; B-91; B-113; B-114; B-117.
---	-----	--
5. Becoming familiar with the general causes of food spoilage as related to home preservation. A-12, p.1-6; B-68.
6. Methods of food preparation for home use. B-10; A-6; A-7, Chs.14-17.

UNIT IV. PRODUCING, CONSERVING, AND PROCESSING

VEGETABLES FOR FAMILY USE

- A. Teaching Aims—To develop the ability of the family—
1. To produce sufficient quantities of vegetables to meet the needs of the family.
 2. To provide adequate quantities of vegetables of highest quality for immediate consumption, for storage, and for processing.
 3. To process sufficient quantities of vegetables and their products for the family food supply.
 4. To practice safety, economy, and effective management measures in all operations connected with the production, conservation, and processing of vegetables.
- B. References for this unit—(see key list on pp. 44-55)
1. (A)—6,7,10,11,12,35
 2. (B)—1 to 21, 65 to 80, 84,88,93 to 99, 101,118,121 to 124 incl., 128, 129 and 132 to 140 incl., on safety, 141
 3. (C)—1,2,3,9 to 35 incl.
- C. Producing Phase—Suggested topics for study and discussion—
1. Locating and planning the garden. B-1, p.1-5; B-2
 - a. Size and scope.
 2. Securing seeds and plants. B-1, p.6-13; B-1, p.31-34
 - a. Varieties
 3. Selecting tools. B-1, p.13-14.
 4. Preparing the soil. B-1, p.14-15
 - a. Plowing, spading, harrowing, raking, and marking out
 5. Improving garden soils. B-1, p.15-18
 - a. Manures, cover crops, and compost
 - b. Lime and commercial fertilizers.
 6. Planting seeds and transplanting plants. B-1, p.18-23; see Ex. 1, p. 30 for job break-down
 - a. Thinning the stand
 7. Using cultural practices in the garden. B-1, p.23-24; B-1, p. 34-42
 - a. Cultivating
 - b. Mulching
 - c. Weeding
 - d. Watering
 8. Controlling and preventing insects, diseases, and rodents in the garden. B-3; B-4; B-5; B-6
 - a. Spraying and/or dusting vegetable plants
 9. Cleaning up the garden.

D. Conserving Phase—Suggested topics for study and discussion—

1. Harvesting vegetables for family use. B-1, p.27-31
 - a. Picking and handling for—
 - (1) Immediate consumption
 - (2) Canning
 - (3) Freezing (4) Drying
 - (5) Winter storage
2. Storing vegetables for winter. B-1, p.24-27; B-9; B-118; B-122; B-123; B-124
 - a. Providing storage facilities
 - b. Selecting vegetables to store
 - (1) Kinds, varieties, maturity
 - c. Preparing vegetables for storing
 - d. Storing the vegetables
 - e. Managing the storage
 - f. Caring for the stored vegetables

E. Processing Phase—Suggested topics for study and discussion—

1. Canning vegetables for family use. B-65; B-66; B-67; B-68; B-69; B-70; B-71; B-72
 - a. Assembling and preparing the necessary equipment—See Ex. 2, pp. 31,32 for job break-down
 - b. Selecting the vegetables
 - (1) Kinds, varieties, and quality
 - c. Preparing the vegetables
 - d. Processing the vegetables according to the method selected
 - e. Labeling and storing the processed vegetables
2. Freezing vegetables for family use. A-35, Ch.12; B-11; B-12; B-13; A-7, Ch.11; B-73; B-74; B-75; B-76; B-96; B-97; B-121; B-128
 - a. Assembling and preparing the necessary equipment
 - b. Selecting the vegetables
 - (1) Kinds, varieties and quality
 - c. Preparing the vegetables—See Ex. 3, pp. 33,34 for job break-down
 - d. Packaging and labeling the vegetables
 - e. Freezing the vegetables
 - f. Storing the frozen vegetables
3. Drying vegetables for family use. B-14; B-15; B-17; B-16; A-7, Chs.20-23; B-78; B-79; B-80; A-6, Ch.10; B-141
 - a. Assembling and preparing the necessary equipment
 - b. Selecting the vegetables
 - (1) Kinds, varieties, and quality
 - c. Preparing the vegetables
 - d. Drying the vegetables
 - e. Packaging, labeling, and storing the dried vegetables

4. Brining and salting of vegetables, and pickling, etc., of vegetables as meal accessories. A-6, Ch.7-8; A-7, Ch.19; A-13, Ch. 18; B-18; B-19; 8-84; B-88
 - a. Assembling and preparing the necessary equipment
 - b. Selecting the vegetables according to use
 - (1) Kinds, varieties, and quality
 - c. Preparing the vegetables according to use
 - d. Processing the product according to the method chosen
 - e. Labeling and storing

UNIT V. PRODUCING, CONSERVING, AND PROCESSING
FRUITS AND FRUIT PRODUCTS FOR FAMILY USE

- A. Teaching aims—To develop the ability of the family—
1. To maintain sufficient plantings of various tree and small fruits to provide ample quantities of fruit for family needs.
 2. To provide adequate quantities of fruits of highest quality for immediate consumption, for storage, and for processing.
 3. To process sufficient quantities of fruits and their products for the family food supply.
 4. To practice safety, economy, and effective management measures in all operations connected with the production, conservation, and processing of fruits and fruit products.
- B. References for this unit—(see key list on pp. 44-55)
1. (A)—6,7,12,13,35
 2. (B)—10 to 17 incl., 22 to 32 incl., 73 to 76 incl., 78,79,80, 84 to 87 incl., 89,96,97,101,119,121 to 124 incl., 128, and 132 to 140 incl., on safety, 141
 3. (C)—10,14,15,16,18,19,22,29,30,32,36,37,38,39
- C. Producing Phase—Suggested topics for study and discussion—
1. Growing tree fruits.
 - a. Establishing tree fruit plantings A-13, Ch.3; B-30; B-119
 - (1) Location, size, scope, and soil
 - (2) Kinds and varieties
 - (3) Securing trees
 - (4) Setting trees
 - b. Pruning tree fruits A-13, Ch.5; B-30; B-119
 - (1) Renovating established plantings
 - c. Controlling insects and diseases of tree fruits A-13, Ch.6
 - d. Propagating fruit plants A-13, Ch.7; see Ex. 4, p. 35 for job break-down
 - e. Pollination and fruit setting A-13, Ch.8
 - f. Managing the soil and fertilizing the trees A-13, Ch.6
 - g. Thinning tree fruits A-13, Ch.10
 2. Growing small fruits. B-30; B-119
 - a. Strawberries A-13, Ch.12
 - b. Grapes A-13, Ch.13
 - c. Brambles A-13, Ch.14(section 1)
 - d. Currants and gooseberries A-13, Ch.14(section 2)
 - e. Cultivated blueberries A-13, Ch.14(section 3)
- D. Conserving Phase—Suggested topics for study and discussion—
1. Harvesting and storing tree fruits. A-13, Ch.1; B-123
 - a. Underground storage

- b. Above ground storage
- c. House cellar
- d. Pits

2. Harvesting small fruits. (same as for "2" under C. above)

E. Processing Phase—Suggested topics for study and discussion—

1. Canning fruits for family use. B-10; A-6; A-7, Ch.14-16; A-12, Ch.7; A-12, Ch. 10.
 - a. Assembling and preparing the necessary equipment
 - b. Selecting the fruits
 - (1) Kinds, varieties, and quality
 - c. Preparing the fruits
 - d. Processing the fruits according to the method selected
 - e. Labeling and storing the processed fruits
2. Freezing fruits for family use. A-7, Ch.12; A-35, Ch.9; B-11; B-12; B-13; B-73; B-74; B-75; B-76; B-96; B-97; B-121; B-128.
 - a. Assembling and preparing the necessary equipment
 - b. Selecting the fruits
 - (1) Kinds, varieties, and quality
 - c. Preparing the fruits
 - d. Packaging and labeling fruits
 - e. Freezing the fruits
 - f. Storing the frozen fruits
3. Drying fruits for family use. A-7, Ch.23; B-14; B-15; B-16; B-17; A-12, Ch.26; B-78; B-79; B-80; B-141
 - a. Assembling and preparing the necessary equipment
 - b. Selecting the fruits
 - (1) Kinds, varieties, and quality
 - c. Preparing the fruits
 - d. Handling the fruits during the drying procedure
 - e. Packaging, labeling, and storing the dried fruits
4. Making fruit juices. A-6, Ch.3; A-12, Ch.19; A-12, Ch.21; A-35, Ch.10; B-32
 - a. Assembling and preparing the necessary equipment
 - b. Selecting the fruits
 - c. Preparing the fruits
 - d. Extracting and handling the juice
 - e. Processing the juice according to the method selected
 - f. Labeling and storing the processed juice
5. Making jellies, jams, butters, conserves, marmalades, preserves, and pickled and spiced fruit. A-6, Chs.8,9; A-12, Chs. 11 to 17; B-84; B-85; B-86; B-87.
6. Making vinegar. B-31; A-12, Ch.21; B-89.

UNIT VI. PRODUCING, CONSERVING, AND PROCESSING

EGGS AND POULTRY MEAT FOR FAMILY USE

- A. Teaching aims—To develop the ability of the family—
 - 1. To produce sufficient quantities of eggs and poultry meat to supply the family food needs.
 - 2. To maintain highest quality in eggs and poultry meat at all times.
 - 3. To can and freeze sufficient quantities of poultry meat to supply family needs.
 - 4. To practice safety, economy, and effective management measures in all operations connected with the production, conservation and processing of poultry products.
- B. References for this unit—(see key list on pp. 44-55)
 - 1. (A)—6,7,8,12,14,15,35,40
 - 2. (B)—33 to 47 incl.,68,73,75,76,92,96,97,101,104,117,130, and 132 to 140 incl., on safety
 - 3. (C)—40 to 59 incl.
- C. Producing Phase—Suggested topics for study and discussion—
 - 1. Securing baby chicks for egg and meat production.
 - a. Number, breeds, and varieties
 - b. Sources
 - c. Breeds and varieties A-14, Ch.2; A-40, Ch.2
 - (1) Egg
 - (2) Meat
 - (3) General purpose
 - 2. Brooding chicks and rearing young stock for egg and meat production. A-14, Ch.4
 - a. Building and operating chick brooders and brooding equipment
 - 3. Feeding chicks and growing stock. A-14, Ch.7; B-33; A-40, Chs.4,5
 - 4. Selecting pullets for the laying flock. B-15, p.2-4
 - a. Culling the laying flock A-14, p.296; B-15, p.4-7; A-40, Ch.10
 - 5. Feeding hens for egg production. A-14, Ch.8; B-34; B-35; B-36; A-40, Chs. 6,7,8
 - 6. Fattening and conditioning poultry for meat production. A-14, Ch.8
 - 7. Housing poultry. A-14, Chs.9,10; B-37; B-38; B-39; A-40, Ch.3
 - a. Types
 - b. Construction

- c. Remodeling
- d. Fixtures
- e. Brooding
- f. Rearing
- g. Mature stock
- 8. Building and/or repairing and operating brooder houses, range shelters, and laying houses.
- 9. Controlling diseases and parasites of young and mature stock. A-14, Ch.16; A-15, Part 7, p.931-1107; B-40; A-40, Ch.9
- 10. Producing high quality eggs. A-14, p.371-374; A-14, p.286-289; B-42
- 11. Producing capons. A-14, Ch.12; B-43; A-40, Ch.12; see Ex. 5, p. 36, 37 for job break-down
- 12. Producing turkeys, ducks, and geese for meat. B-44
See analysis and references for this topic in Manual of Instruction, Course 7, Job 10.
- 13. Raising rabbits for meat. B-117
- D. Conserving Phase—Suggested topics for study and discussion—
 - 1. Maintaining high quality in eggs. A-14, p.374-376; B-42
 - a. Essential practices in handling eggs for family use
 - (1) Gathering
 - (2) Cooling
 - (3) Candling
 - (4) Cleaning
 - b. Storing and preserving eggs A-14, p.376-379
 - 2. Killing and dressing poultry, turkeys, ducks, and geese for family use. A-14, p.393-401; A-8; B-45; A-40, Ch.11
 - a. Assembling and preparing the necessary equipment
 - b. Practicing safety precautions when killing and dressing
 - (1) Care of knives
 - (2) Precautions with hot water and wax
 - c. Selecting the birds to kill for—
 - (1) Immediate consumption
 - (2) Canning
 - (3) Freezing
 - (4) Smoking
 - d. Killing and dressing
 - (1) Beheading
 - (2) Dislocating the neck
 - (3) Sticking and debraining
 - (4) Plucking the feathers
 - (a) Dry
 - (b) Scald

- (c) Semi-scald
 - (d) Wax
 - (5) Cooling the carcass
 - (6) Cleaning and drawing the carcass
 - (7) Removing leg tendons
 - (8) Deboning the carcass
 - e. Preparing chicken for table use
 - (1) Half chicken for broiling
 - (2) Split down the back for broiling, frying and barbecue
 - (3) Quartered for broiling or frying
 - (4) Cut up for stewing, pie, or frying
 - (5) For baking, roasting, or barbecue including turkey, duck, goose, and guinea hen
- E. Processing Phase—Suggested topics for study and discussion—
1. Canning poultry for family use. A-6, Ch.5; A-12, Ch.9; B-46; B-68; B-92
 - a. Assembling and preparing the necessary equipment
 - b. Preparing the poultry
 - (1) Cutting
 - (2) Precooking
 - c. Packing and processing the chicken according to the method selected
 - d. Labeling and storing canned chicken
 2. Freezing poultry for family use. A-35, Ch.14; B-47; B-73; B-75; B-76; B-96; B-97; B-130
 - a. Assembling and preparing the necessary equipment
 - b. Preparing the poultry
 - (1) Cutting
 - (2) Deboning
 - c. Wrapping, packaging, and labeling
 - d. Freezing
 - e. Storing the frozen product

UNIT VII. PRODUCING, CONSERVING, AND PROCESSING

MILK AND MILK PRODUCTS FOR FAMILY USE

- A. Teaching aims—To develop the ability of the family—
1. To produce sufficient quantities of milk to meet the requirements of an adequate diet for the family.
 2. To maintain highest quality in milk, cream, butter, cheese, ice cream, and other milk products at all times.
 3. To make the most efficient use of milk and milk products in meeting family food requirements.
 4. To practice safety, economy, and effective management measures in all operations connected with the production, conservation, and processing of milk and milk products.
- B. References for this unit—(see key list on pp. 44-55)
1. (A)—7,15,16,17,18,19,35,39
 2. (B)—48,49,105 to 111 incl.,113,114,115,116, and 132 to 140 incl., on safety
 3. (C)—4,60 to 65 incl.,
- C. Producing Phase—Suggested topics for study and discussion—
1. Selecting dairy cows. A-16, Ch.20
 - a. Consider breed
 - b. Number of animals to adequately supply family food requirements
 2. Managing the dairy herd. A-16, Ch.33
 3. Feeding dairy cows in the barn. A-16, Ch.42;
 4. Feeding dairy cows during the pasture season. A-16, Ch.43; See also, A-17, Chs.25,26,27,28; A-17, Appendix, p.1015-1019, for 2, 3 and 4
 5. Raising dairy cattle. A-16, Chs. 28,29
 - a. Calves
 - b. Heifers
 6. Housing dairy cows. A-16, Ch.38
 7. Keeping dairy cows healthy. A-16, Ch.37; A-15, Part 4, pp. 501-645
 8. Producing high quality milk. A-18, Ch.12; see Ex. 6, pp. 38-39 for job breakdown
 9. Keeping goats for milk production. A-19, B-114; B-115, B-116
- D. Conserving Phase—Suggested topics for study and discussion—
1. Handling milk and cream for family use. A-7, Ch.27; A-18, Ch. 12; B-48; B-49; B-105; B-106

- a. Preparing and assembling the necessary equipment
 - b. Removing from barn
 - c. Straining
 - d. Separating
 - e. Cooling
 - f. Storing
- E. Processing Phase—Suggested topics for study and discussion—
- 1. Converting milk into various dairy products. A-7, Ch.28
 - a. Assembling and preparing the necessary equipment
 - b. Making butter A-18, Ch.15; B-107; B-108; A-39, Ch.10
 - c. Making ice cream A-18, Ch.16; A-35, Ch.17; A-39, Ch.12
 - d. Making cheese A-18, Ch.17; B-110; B-111; A-39, Ch.11
 - (1) Cottage cheese
 - (2) Cheddar cheese
 - (3) Cream cheese (Neufchatel)
 - e. Storing the processed product

UNIT VIII. PRODUCING, CONSERVING, AND PROCESSING

MEATS AND MEAT PRODUCTS FOR FAMILY USE

- A. Teaching aims—To develop the ability of the farmer—
1. To produce the meat necessary for the family.
 2. To provide highest quality meat for all purposes.
 3. To process sufficient quantities of meat and meat products to supply the needs of the family.
 4. To practice safety, economy and effective management measures in the operations involved in slaughtering and processing of meats.
- B. References for this unit—(see key list on pp. 44-55)
1. (A)—6,7,12,17,20,21,22,23,24,25,35
 2. (B)—50 to 58 incl., 68,73,76,96,97,100,101,121,130, and 132 to 140 incl., on safety
 3. (C)—7,66 to 104 incl.
- C. Producing Phase—suggested topics for study and discussion—
1. Selecting meat animals to feed for the family meat supply.
 - a. Calf for veal
 - b. Calf or steer for beef A-24, Ch.3
 - c. Pig for pork and lard A-34, Ch.5
 - d. Sheep for lamb and/or mutton A-34, Ch.5
 2. Feeding meat animals for growth
 - a. Veal calves A-17, p.729-730
 - b. Beef cattle A-17, p.704-710
 - c. Swine A-17, p.935-939; A-17, p.942-943
 - d. Sheep A-17, p.787-789
 3. Managing and caring for meat animals.

a. Beef cattle A-30, Ch.11	} Shelter, Equipment, Health.
b. Swine A-30, Ch.22	
c. Sheep A-30, Ch.28	
 4. Fattening or finishing meat animals for quality meat.
 - a. Beef A-17, p.712-719; A-17, p.725-729
 - (1) Sample rations for fattening beef cattle A-17, p.1019-1027
 - b. Swine, A-25, p.729-745
 - (1) Sample rations for fattening swine A-17, p.1023-1024
 - c. Sheep, A-17, p.793-803
 - (1) Sample rations for fattening lambs and sheep A-17, p.1022-1023
 5. Providing quality meat from healthy animals. A-22, Ch.3; B-100.

D. Conserving and Processing Phase—Suggested topics for study and discussion.

1. Selecting and handling meat animals just previous to slaughter. A-6, Ch.5
 - a. Beef A-22, p.51-54; A-23, p.44-45
 - b. Veal A-22, p.114-117; A-23, p. 105
 - c. Pork A-22, p.22-26; A-23, p.68-69; B-50, p.12.
 - d. Lamb A-22, p.95-99; A-23, p.85-90.
2. Providing tools and equipment for livestock slaughter. A-22, p.7-14; A-23, Ch.6; B-10, p.10-11.
 - a. Cutting tools
 - b. Hoisting apparatus
 - c. Scalding and scraping equipment
 - d. Refrigeration equipment
3. Practicing safety precautions when slaughtering.
 - a. Holding knives properly when wiping or washing
 - b. Handling sharp knives carefully
 - c. Using the steel properly
 - d. Inspect overhead equipment for security and strength
 - e. Inspect hoisting apparatus for strength and working condition
4. Slaughtering and dressing meat animals.
 - a. Stunning and sticking
 - (1) Beef A-22, p.55; A-23, p.45-47, p.64-66.
 - (2) Veal A-22, p.117; A-23, p.105.
 - (3) Pork A-22, p.26-31; A-23, p.69-70; B-50, p.12-13.
 - (4) Lamb A-22, p.99-100; A-23, p.88-90. (see Ex. 7, p. 40 for job break-down)
 - b. Skinning, pelting or scraping
 - (1) Beef A-22, p.56-63, 67; A-23, p.49-59
 - (2) Veal A-22, p.117; A-23, p.105-109.
 - (3) Pork A-22, p.31, 38-42; A-23, p.70-75; B-50, p.13-14.
 - (4) Lamb A-22, p.100-104; A-23, p.90-94.
 - c. Removing and handling the viscera.
 - (1) Beef A-22, p.63-67,71; A-23, p.56-58.
 - (2) Veal A-22, p.117-119; A-23, p.109-110.
 - (3) Pork A-22, p.29,30,31(photos); A-23, p.75-79; B-50, p.15-16.
 - (4) Lamb A-22, p.104-106; A-22, p.107,108;A-23, p.94-97,98,99. (photos)
 - d. Washing and splitting the carcass
 - (1) Beef A-22, p.67-70,72; A-23, p.59.
 - (2) Pork (loosening the leaf fat) A-22, p.33-35.
 - e. Cooling and handling the carcass
 - (1) Beef (quartering) A-22, p.74,79-80.
 - (2) Veal A-23, p.110.

- (3) Pork A-22, p.44; B-50, p.17
 - (4) Lamb A-23, p.96.
- f. Handling the hides and pelts A-22, Ch.25.
- 5. Cutting the carcasses of meat animals for family use.
 - a. Beef—cutting and trimming the primal cuts
 - (1) The fore quarter A-22, p.251-255; A-23, p.133-143.
 - (2) The hind quarter A-22, p.255-257; A-23, p.143.
 - (3) The round A-22, p.258-260; A-23, p.145-148.
 - (4) The rump A-22, p.260; A-23, p.145-148.
 - (5) The loin A-22, p.260-262; A-23, p.148-151.
 - b. Veal—cutting and trimming the primal cuts
 - (1) The fore saddle A-22, p.269-273.
 - (a) Rib
 - (b) Shoulder
 - (c) Breast
 - (2) The hind saddle A-22, p.273-274.
 - (a) Leg (b) Loin (c) Flank
 - c. Pork—cutting and trimming the primal cuts B-50, p.18-19
 - (1) Head A-22, p.206-209
 - (2) Shoulder A-22, p.208-213
 - (3) Loin A-22, p.214-215
 - (4) Belly A-22, p.215
 - (5) Ham A-22, p.214
- 6. Making pork sausage. A-22, p. 229-231; B-50, p.25-31.
 - a. Assembling and preparing the necessary equipment
 - b. Selecting and cutting sausage meat
 - c. Deciding upon the types of sausage to make
 - (1) Breakfast
 - (2) Smoked
 - (3) Bologna-style
 - (4) Summer sausage
 - d. Seasoning and mixing
 - e. Stuffing casings
- 7. Rendering the pork fat. A-22, p.219-220; B-50, p.34-35.
- 8. Making scrapple and/or pon haus. A-22, p.234-235; B-50, p.31,32.
- 9. Making head cheese. A-22, p.235; B-50, p.32-33.
- 10. Making lebanon bologna. A-22, p.231-232.
- 11. Making other meat products
 - a. Hamburg (ground beef)
 - b. Loaf meat (ground beef, veal, pork combination)
 - c. Tripe A-22, p.75
 - d. Souse A-22, p.233
 - e. Others A-22, Ch.15

12. Curing meats. A-22, Ch.9; A-12, Ch.22
 - a. Assembling and preparing the necessary equipment
 - b. Methods of curing
 - c. Ingredients
 - d. Curing pork products B-50, p.20-23
 - (1) Dry sugar cure A-22, p.127-130
 - (a) Formula, (b) Method of handling—shelf or box, (c) Curing period, (d) Soaking
 - (2) Sweet pickle cure
 - (a) Formula, (b) Method of handling—vat or barrel, (c) Curing period, (d) Soaking
 - (3) Dry salt cure (used on fat backs) A-22, p.126
 - (a) Formula, (b) Method of handling, (c) Curing period
 - e. Curing beef products
 - (1) Corning A-22, p.139-140
 - (2) Dried beef A-22, p.140-141
 - f. Curing lamb products A-22, p.112-113
 - (1) Lamb hams
 - g. Smoking-cured meats A-22, p.146-148; B-10, p.23
13. Preparing meats for freezing. A-35, Ch.13; B-47; B-12, p.25-32; B-13, p.2-3; B-73; B-76; B-96; B-97; B-121; B-130
 - a. Chilling and ageing B-7, p.25-26
 - (1) Beef A-7, p.162-163
 - (2) Pork A-7, p.179
 - b. Cutting the carcass into wholesale cuts and cooking-size pieces for freezing B-12, p.26-30
 - (1) Beef A-7, p.163-168
 - (2) Veal (same as for beef)
 - (3) Lamb A-7, p.173
 - (4) Pork A-7, p.179-181
 - (a) Sausage
 - c. Wrapping, freezing, and storing frozen meats B-12, p. 30-32
 - (1) Beef A-7, p. 168-171
 - (2) Veal and lamb (same procedure as for beef)
 - (3) Pork A-7, p.183
14. Canning meats and meat products A-7, p.292-298; B-46; B-58; B-68; A-6, Ch.5; A-12, Ch.9.
 - a. Assembling and preparing the necessary equipment
 - b. Selecting and preparing the meat
 - c. Processing according to the method selected—see Ex. 8, p. 41 for job breakdown
 - d. Labeling and storing

**UNIT IX. PRODUCING, CONSERVING, AND PROCESS-
ING HONEY, AND MAPLE PRODUCTS FOR
FAMILY USE**

- A. Teaching Aims—To develop the ability of the family—
1. To produce honey in sufficient quantity to supply family needs.
 2. To utilize honey effectively in the family diet.
 3. To produce sufficient quantities of maple sap to convert into maple syrup and sugar for family needs.
 4. To produce maple syrup and sugar of high quality.
 5. To utilize maple syrup and sugar effectively in the family diet.
- B. References for this unit—(see key list on pp. 44-55)
1. (A)—12, 26
 2. (B)—59, 60, 61, 62, 112, 131, and 132 to 140 incl., on safety
 3. (C)—105, 106, 107, 108
- C. Suggested topics for study and discussion—
1. Honey.
 - a. Beginning with bees A-26, Ch.2; B-59, p.5-6
 - (1) Package bees B-59, p.11-15; B-131; se eEx. 9, p. 42.43 for job break-down
 - b. Keeping bees in town A-26, Ch.3
 - c. Understanding the honey-bee family and its activities within the hive A-26, Chs.4,5; B-59, p.1-5; B-59, p.9-11
 - d. Assembling and preparing bee equipment B-59, p.8-9
 - (1) Hives A-26, Ch.9
 - (2) Tools A-26, Ch.10
 - (3) Comb foundation A-26, Ch.12
 - e. Managing bees A-26, Chs.6, 7, 8
 - (1) Feeding bees A-26, Ch.11
 - (a) Fall
 - (b) Spring
 - (c) Package
 - (2) Seasonal A-26, Ch.15; B-59, p.15-44
 - (a) Swarm control—queen cells, shade boards, ventilation
 - (b) Supering
 - (c) Requeening
 - (3) Wintering
 - (a) Packing
 - (b) Providing top entrance

- (4) Inspecting bees in spring
 - (a) For queens
 - (b) For feed
 - (c) For additional space
 - (d) To clean out bottom board
- f. Preventing and/or controlling diseases and enemies of bees A-26, Ch.17; B-60
 - (1) Foulbrood, skunks, mice, wax-moth, bears
- g. Handling and caring for surplus honey B-59; B-112
 - (1) Producing honey in large supers above a queen excluder
 - (a) Comb honey
 - (b) Strained honey
 - (c) Extracted honey
 - (2) Preventing damage by the wax-moth
- 2. Maple products.
 - a. Improving and managing the sugar bush B-61, p.40-44; B-62, p.4-11
 - (1) Factors influencing sap flow B-61, p.9-12
 - b. Tapping trees B-61, p.13-20; B-62, p.11-13; A-12, Ch.20
 - (1) Maple Sap B-62, p.24-25
 - c. Assembling and preparing equipment B-61, p.24-27; B-62, p.13-19; A-12, Ch.20
 - d. Providing the evaporator house and evaporators B-61, p.27-29; B-62, p.19-24
 - e. Making maple syrup B-61, p.29-32; B-62, p.25-30; A-12, Ch.20
 - (1) Canning and storing
 - f. Making maple sugar B-61, p.32-33; B-62, p.30-32; A-12, Ch.20
 - (1) Storing

UNIT X. PRODUCING, CONSERVING, AND PROCESSING

CEREAL GRAINS FOR FAMILY USE

- A. Teaching aims—To develop the ability of the family—
 - 1. To produce sufficient quantities of cereal grains to meet family food needs.
 - 2. To conserve and process sufficient quantities of cereal grains to supply the family with meal and flour.
- B. References for this unit—(see key list on pp. 44-55)
 - 1. (A)—7, 9, 34, 38
 - 2. (B)—132 to 140 incl., on safety
 - 3. (C)—1, 8, 10, 14, 15, 16, 18, 29, 30, 109, 110, 111
- C. Producing phase—Suggested topics for study and discussion.
 - 1. Growing cereal grains.
 - a. Corn A-34, Chs.6, 7, 8, 9, 10
 - b. Wheat A-34, Chs.15, 17
 - c. Buckwheat A-34, Ch.25
- D. Conserving phase—Suggested topics for study and discussion.
 - 1. Harvesting cereal grains.
 - a. Cutting at the proper stage of maturity
 - b. Curing the harvested grain crops
 - c. Storing the threshed grains and husked corn
 - d. Cleaning the grain
 - 2. Corn harvesting. A-34, Ch.11
 - 3. Wheat harvesting. A-34, Ch.18
 - 4. Buckwheat harvesting. A-34, p.201
- E. Processing phase—Suggested topics for study and discussion.
 - 1. Milling and grinding at home or having it done at a custom mill.
 - a. Making wheat flour and bread
 - (1) Flour A-38, p.291-294; A-7, p.393-397
 - (2) Bread A-38, p.297-298
 - (3) Enriched flour and bread A-7, Ch.25; A-9, Ch.10
 - b. Making corn meal. A-38, p.304
 - c. Making buckwheat flour A-38, p.310; A-34, p.201-202
 - d. Storing processed cereal grain products
 - (1) Clean, dry place
 - (2) Out of danger from injury by rats, mice, and weevils

IV. EXAMPLES OF JOB BREAK-DOWN (AGRICULTURAL INSTRUCTOR TRAINING)

1. Transplanting Vegetable Plants

<u>IMPORTANT STEPS</u>	<u>KEY POINTS</u>
1. Assemble equipment	Firm, well-prepared soil Area for plants marked out Pail of water and can for filling holes with water Dibble Plants
2. Select plants	Stocky, short, hardy plants Large, well-developed root systems
3. Prepare plants	Water thoroughly before disturbing Remove from flats or bed with ball of earth about roots, or Dip roots in water
4. Set plants	Make hole with dibble Set plant at proper depth Firmly pack moist soil around roots without bruising stem Cover moist soil with dry soil Add water to hole after setting if soil is dry Transplant on cloudy days or late afternoons
5. Care for transplanted plants	In home gardens, protect plants from direct sunlight for a few days Water in the morning for a few days if weather and soil are dry Use sufficient water to reach the roots

2. Preparing Jars and Using them in Canning

IMPORTANT STEPS

1. Select jars
2. Examine tops of jars
3. Select jar covers
4. Examine jar covers
5. Check jars and covers together
6. Wash jars and covers

KEY POINTS

Use pints or quarts according to food to be canned

Discard any jars having nicks, cracks, sharp edges or flaws

All types of jar tops may be used but:

- a. Covers with “flowed on” gaskets are used **best** on jars to be processed 20 minutes or longer
- b. Covers with separate rubber bands may be used for all canning

Covers with “flowed on” rubber gaskets should be new

Glass covers should be of even thickness and size and without nicks or cracks

Zinc covers must have no pin pricks or uneven edges and porcelain must not be cracked

Covers with “flowed on” rubber gaskets cannot be tested before processing

Covers with separate rubber bands:

- a. Fill jar $\frac{1}{4}$ full with water
- b. Cover and seal
- c. Invert jar
- d. If no leaks, assume jar is acceptable

Covers with “flowed on” rubber gaskets may only be dipped in boiling water immediately before using

Covers with rubber bands and jars should be washed in hot soapy water

Should be scoured if necessary

Rinsed in boiling water

Drained

- | | |
|------------------------------|---|
| 7. Sterilize jars and covers | All jars processed less than 20 minutes in boiling water or pressure cooker and all jars having previously held spoiled food should be sterilized by covering with water and boiling 20 minutes |
| 8. Fill jars | Fill to within 1 inch of top for all starchy vegetables and for meats
Fill to within $\frac{1}{2}$ inch of top for all other vegetables and for fruit |
| 9. Wipe top edges of jars | Remove any food particles before placing cover on jar |
| 10. Cover jar and seal | Seal according to manufacturer's directions
Covers with "flowed on" gaskets are completely sealed
Covers with separate rubber bands are partially sealed |
| 11. Process | Fill water bath to over 1 inch above jar
Use pressure cooker according to directions
Process according to time-table |
| 12. Remove jars | Covers with "flowed on" gaskets need no tightening
Covers with separate bands are completely sealed immediately upon removal |
| 13. Cool | Cool with good circulation of air but no draft |
| 14. Label and store | Remove separate metal bands
Wipe off jars
Label and store in cool, dark, dry place |

3. Preparing Fresh Peas for Freezing

IMPORTANT STEPS

1. Assemble equipment

2. Prepare peas

3. Scald,

OR

4. Steam

KEY POINTS

Long-handled colander or wire basket of fine mesh

Two large cooking pans or kettles, or one steamer and 1 large pan

Sharp knives for slicing and preparing vegetables

Moisture - vapor - proof containers

Either running cold water or water containing ice

Select young tender peas of proper variety
Shell

Place peas in wire basket or colander

Emerse in kettle or rapidly boiling water

Use one gallon of water per pound of peas

Begin counting the time when water comes to rolling boil after peas are put in

Agitate peas by moving basket up and down for sixty seconds

Time operations with second hand of watch

Time accurately

Use 6 to 12 qt. kettle—fitted with 3" high rack in bottom—tight fitting lid

Pour $1\frac{1}{2}$ to 2 qts. of water into kettle

Bring to full rolling boil

Steam one pound of shelled peas at a time

Place in wire basket, place basket on rack in kettle

Cover tightly

- With water at full rolling boil,
steam peas for $1\frac{1}{2}$ minutes
Remove immediately from
steamer and proceed to cool
5. Cool
- Immerse wire basket or colander
in running cold water—not
warmer than 60° , or in water
containing ice
Use at least two gallons per
pound of peas
Chill peas completely and quickly—approximately five minutes required
Drain for a few seconds
6. Package
- Pour peas into waiting container
Pack loosely—allow space at top
for expansion
Close and seal container
Make airtight in accordance
with instructions for different
makes of containers
7. Label
- Name
Locker number
Kind of vegetable
Date
8. Freeze
- Place immediately in freezer—
home cabinet or locker plant,
or
Hold in electric refrigerator until trip can be made to locker plant
Aim to freeze as quickly as possible from time of harvesting

4. Cleft Grafting

<u>IMPORTANT STEPS</u>	<u>KEY POINTS</u>
1. Assemble equipment	Sharp knife with straight blade Grafting chisel with curved handle Wood mallet with thong Pruning saw with fine teeth—sharp Cions Wax
2. Select stock	1½" to 2" in diameter Young growth Smooth bark—free from knots, straight grain
3. Saw off stock	Make clean cut Avoid loosening or tearing bark
4. Make the cleft	Place chisel so that when cleft is made cions will be inserted in a horizontal plane With chisel and mallet start cleft carefully Cut bark ahead of split Check if bark doesn't part evenly—adjust chisel and try again
5. Remove chisel and insert wedge	Tap out carefully with mallet Reverse chisel and insert wedge Center of cleft Spread cleft to desired width
6. Insert cions	Adjust wedge to cions Slip each cion in at outer edge Slip downward at slightly outward angle Get lower bud close to cut surface of stock Get cambium layer of cion in contact with that of stock Tilt cion slightly outward at top
7. Withdraw wedge	Tap out carefully and slowly Test cions for tightness
8. Apply wax	Cover all exposed surfaces

5. Caponizing Cockerels

<u>IMPORTANT STEPS</u>	<u>KEY POINTS</u>
1. Select cockerels	Five to eight weeks of age $\frac{3}{4}$ to 2 lbs. in weight
2. Prepare birds	Confine in well-ventilated quarters No feed for 24 hours; no water for 12 hours prior to operating
3. Assemble equipment	Caponizing board; fastening straps or string; sharp knife; probe and tearing hook; spreader; remover
4. Secure bird to board	Place left side of bird to board; wings and feet held firmly to board with straps or string
5. Prepare bird for the operation	Pluck feathers from right side between thigh and third rib; pull few feathers at a time with upward motion toward back
6. Make the incision	Place tip of finger on point between ribs directly in front of the hip point and draw skin back toward the hip; hold firmly Place knife between first and second ribs approximately $\frac{1}{2}$ to $\frac{3}{4}$ of an inch below backbone Make incision $\frac{1}{2}$ inch deep; one inch long, drawing knife downward following curve of ribs
7. Place spreaders in incision	Large end of spreaders pointing toward breastbone; enlarge incision if necessary for clearer view
8. Tear abdominal membrane (If not cut during incision)	Use hook carefully, avoiding hooking intestines Catch small bits of membrane and tear with short, quick jerks

9. Push intestines aside

Use probe, locate testes; creamy yellow (sometimes dark-colored); vary in size from wheat kernels to navy beans; lie close to back-bone at front end of kidneys; large artery lies between testes, death results if this is punctured

10. Remove testes

Remove both testes from one incision if possible

Take lower one first

Get entire organ into remover

Make sure that no blood vessels have been grasped

Slowly pull instrument out of body with twisting motion until organ is severed

If unsuccessful in removing lower, remove upper

Turn bird over with right side to board

Repeat the operating procedure for second teste

6. Fast or Managed Milking of Cows

IMPORTANT STEPS

1. Assemble equipment

2. Prepare the cow

3. Use strip cup

4. Hand milk

OR

5. Place milking machine

KEY POINTS

Pail of hot water, 130°
Two pieces of turkish toweling,
2' x 2'
Strip cup
Pail and stool for hand milking
Strainer, cans, scales, milk re-
cord sheets
Or, milking machine ready to
operate

Place towels in pail of hot water
Hand massage udder for $\frac{1}{2}$
minute
Wring one towel from hot water
Massage udder with hot towel
until it begins to cool
Exchange cool towel for hot one
Continue massaging with hot
towels for 1 to 1½ minutes

With full hand squeeze, milk the
first few streams into strip cup
from each teat

Place stool, sit comfortably
Pail between knees, good grip
Full hand squeeze
Milk long, full streams
Keep hands dry
Proceed quietly, orderly,
quickly

Pick up machine with left hand,
and air hose with right hand
Plug air hose into stall petcock
Place pail firmly on floor, well
toward front of stall, or attach
securely to cow

6. Attach teat cups Pick up claw with left hand
 Hold under the udder
 Attach teat cups with right
 hand
 Left rear, left front, right front,
 right rear
 Leave on cow for 3 to 3½ minutes
7. Supervise machine operation See that machine operates
 properly
 At end of 3 minutes massage ud-
 der with right hand for ½
 minute
 With left hand pull very gently
 downward on the claw
8. Remove machine At end of 3½ minutes:
 Turn petcock on lid to release
 vacuum
 Remove teat cup assembly from
 cow

7. Bleeding a Lamb

IMPORTANT STEPS

1. Assemble equipment

2. Select lamb

3. Prepare lamb

4. Place upon bench or
lamb rack

5. Stick the lamb

KEY POINTS

Sharp knife

Steel

Low bench, box, or V-shaped
trough (lamb rack)

Thrifty, well-finished individual

Keep feed away for 12 hours
prior to slaughter

Free access to water

Avoid rough handling (do not
grasp fleece)

To lead, grasp under the throat
with the left hand, right hand
at dock

To lift, place arms around fore
and hind legs of lamb close to
the body and lay lamb upon
its left side

Place right knee on lamb's
shoulder to hold it down or
have assistant hold lamb by
grasping fore and hind flanks

Grasp lamb by lower jaw with
left hand

Place knee against top of head

Push knife through throat just
back of jawbone, with cutting
edge of knife pointed outward

Sever both veins and arteries

Hold lamb while bleeding

8. Canning Meats

<u>IMPORTANT STEPS</u>	<u>KEY POINTS</u>
1. Wipe meat	Place on clean board Wipe with clean, damp cloth to remove any foreign material
2. Trim meat	Remove excess fat; all gristle; all bone
3. Cut pieces	Cut across grain Cut jar-sized pieces with grain Cube meat for stews Grind meat for patties and sausages
4. Precook	Roast, or brown lightly, or simmer until red or pink color disappears
5. Pack meat	Pack loosely into clean hot jars Use spoon so as not to prick meat Fill jars to within $\frac{3}{4}$ inch of top
6. Add salt	$\frac{1}{2}$ teaspoon per pint jar Add no other seasoning
7. Add pan dripping, or water (optional)	Add no flour, butter, egg or crumbs Liquid, if used, need not cover meat
8. Wipe off neck of jar	Be sure jar top is clean before placing cover on
9. Seal	According to manufacturer's directions
10. Process in pressure cooker	According to time tables
11. Adjust lids	According to type of jar used
12. Cool	Cool out of draft and do not invert
13. Prepare for storing	Wipe all jars free of grease
14. Label jars	Kind— Sausage, patties, stew, roast, Date
15. Store	In cool, dark, dry place

9. Introducing Package Bees

IMPORTANT STEPS

KEY POINTS

- | | |
|-------------------------------|---|
| 1. Care for bees upon arrival | Feed $\frac{1}{2}$ cup of sugar syrup ($1\frac{1}{2}$ parts sugar to 1 part of water)
Store in dark room
Maintain at temperature between 50° - 60° until introduction to hive
Do not expose to temperature below 45° |
| 2. Assemble equipment | Complete hive (including inner cover) with either foundation or drawn comb, feeder can, super for feeder can
Place on permanent stand with wind protection |
| 3. Prepare to introduce bees | Toward evening, or if possible, when temperature is below 55°
Remove lid, super, inner cover
Remove 5 frames from center of hive starting with the fifth from the left
Sprinkle bees in package with $\frac{1}{2}$ cup of cool sugar syrup from feeder can
Open package, remove queen cage
Remove covering from candy chamber in queen cage |
| 4. Introduce bees | Hang queen cage 2" from top of center of fourth frame
Sprinkle bees in package lightly with cool sugar syrup from feeder can. Shake bees into space left by removal of frames
Remove last bees from package by jarring sharply with screw driver handle or similar instrument |

5. Close hive

Return frames as quickly as possible

Cover hive with inner cover

Place feeder can over opening of inner cover

Replace super

Replace lid

6. Feed bees

One can of syrup every 4 or 5 days

Use approximately $\frac{1}{2}$ gal. for bees on foundation, 1 qt. for bees on drawn comb

Continue feeding until there are 6 to 7 frames of brood

Stop feeding and add supers as needed

V. SUGGESTED REFERENCE MATERIAL

Books (A)

1. Black, Food Enough. The Jacques Cattell Press, Lancaster, Pa., 1943.
2. Hendrickson, Food "Crisis." Doubleday, Doran and Co., Inc., N. Y., 1943.
3. Mickey, Food In War And Peace. International Harvester Co., Chicago, 1943.
4. Voorhies, Planning For Total Feed Needs. Univ. of Cal. Press, Berkeley and Los Angeles, 1942.
5. Davis, Vitality Through Planned Nutrition. The Macmillan Co., N. Y., 1943.
6. Williams, Home Canning Made Easy. The Macmillan Co., N. Y., 1943.
7. Duncan, Food Processing. Turner E. Smith & Co., Atlanta, Ga., 1943.
8. Klein, Backyard Poultry Keeping. Everybodys Book Pub. Co., Hanover, Pa., 1943.
9. Chapman, Victory Barnyard. McGraw-Hill Book Co., Inc., N. Y., 1943.
10. Nissley, Home Vegetable Gardening. Rutgers Univ. Press, New Brunswick, N. J., 1942.
11. Watts & Watts, The Vegetable Growing Business, Orange Judd Pub. Co., N. Y., 1940.
12. Chenoweth, Food Preservation. J. Wiley & Sons, N. Y., 1930.
13. Knapp & Auchter, Growing Tree And Small Fruits. J. Wiley & Sons, N. Y., 1941.
14. Knandel, Profitable Poultry Keeping. Orange Judd Pub. Co., N. Y., 1942.
15. U.S.D.A., Keeping Livestock Healthy. Yearbook of Agriculture, 1942.
16. Petersen, Dairy Science. J. B. Lippincott Co., Phila., Pa. 1939.
17. Morrison, Feeds And Feeding. Morrison Pub. Co., Ithaca, N. Y., 1937.
18. Judkins and Mack, The Principles Of Dairying. J. Wiley & Sons, N. Y., 1941.
19. Te Walt, Improved Milk Goats. Orange Judd Pub. Co., N. Y., 1943.
20. Peters, Livestock Production. McGraw-Hill Book Co., N. Y., 1942.

21. Smith, Pork Production. The Macmillan Co., N. Y., 1937.
22. Zeigler, The Meat We Eat. The Interstate Printers and Pub., Danville, Ill., 1943.
23. Tomhave, Meats and Meat Products. J. B. Lippincott Co., Phila., Pa., 1925.
24. Edmonds, et al, Producing Farm Livestock. J. Wiley & Sons, N. Y., 1932.
25. U.S.D.A., Food And Life, Yearbook of Agriculture, 1939.
26. Pellett, A Living From Bees. Orange Judd Pub. Co., N. Y., 1943.
27. Graubard, Man's Food, Its Rhyme Or Reason. The Macmillan Co., N. Y., 1943.
28. Bogert, Good Nutrition for Everybody. The Univ. of Chicago Press, Chicago, Ill., 1942.
29. Sherman & Lanford, Essentials Of Nutrition. The Macmillan Co., N. Y., 1943.
30. Silver, Nutrition. D. Appleton-Century Co., N. Y., 1942.
31. Sense, America's Nutrition Primer. M. Barrows & Co., N. Y., 1941.
32. Bogert, Nutrition And Physical Fitness. W. B. Saunders & Co., Phila., Pa., 1939.
33. Sherman & Lanford, An Introduction To Foods And Nutrition. The Macmillan Co., N. Y., 1943.
34. Montgomery, Productive Farm Crops. J. B. Lippincott Co., Phila., Pa., Revised, 1938.
35. Tressler & Evers, The Freezing Preservation Of Foods. The AVI Pub. Co., N. Y., 1943.
36. Stewart, Foods — Production, Marketing, Consumption. Prentice-Hall Inc., N. Y., 1938.
37. Rose, Feeding The Family. The Macmillan Co., N. Y., 1943.
38. Sherman, Food Products. The Macmillan Co., N. Y., 1935.
39. Eckles, Combs, & Macy, Milk And Milk Products. McGraw-Hill Book Co., N. Y., 1943.
40. Taylor, Backyard Poultry Keeping. Rutgers Univ. Press, New Brunswick, N. J., 1943.
41. American Can Company, The Canned Food Reference Manual. American Can Co., 230 Park Avenue, N. Y., 1943.

Bulletins and Circulars (B)

1. The Family Vegetable Garden. Cir. 120, The P.S.C.
2. Plan the Vegetable Garden. Leaflet 73, The P.S.C.
3. Control of Vegetable Insects in the Home Garden. Cir. 246, The P.S.C.
4. Insects Attacking Vegetables. Cir. 122, The P.S.C.
5. Control of the Diseases of Vegetable Crops. Cir. 173, The P.S.C.
6. Preventing Disease Losses In the Home Garden. Leaflet 94, The P.S.C.
7. How to Grow Disease-free Vegetable Plants. Leaflet 90, The P.S.C.
8. Diseases and Insects of Garden Vegetables. F.B. 1371, U.S.D.A.
9. Storing Vegetables. Leaflet 84, The P.S.C.
10. Canning Fruits and Vegetables at Home. Cir. 238, The P.S.C.
11. Preservation of Fruits and Vegetables in Refrigerated Food Lockers. Ext. Bul. 208, Mich. State College, East Lansing.
12. Freezing And Storage of Foods In Freezing Cabinets And Locker Plants. Bul. 690, N. Y. State Agrl. Exp. Sta., Geneva.
13. Food Preservation by Freezing. Ext. Bul. 593, Oregon State College, Corvallis.
14. Drying Fruits and Vegetables At Home. Cir. 247, The P.S.C.
15. Home Dehydration and Wartime Conservation of Fruits and Vegetables. Ellen H. Richards Institute, Pop. Bul. 1, The P.S.C.
16. Drying Foods At Home. Bul. 494, Agrl. Ext. Ser., Univ. of Georgia, Athens.
17. Food Preservation by Drying. Cir. 463, N. J. Agrl. Exp. Sta., New Brunswick.
18. Salting or Brining Vegetables. Leaflet 96, The P.S.C.
19. Salting and Brining of Vegetables. Cir. 467, N. J. Agrl. Exp. Sta., New Brunswick.
20. The Farm Garden. F. B. 1673, U.S.D.A.
21. The City Home Garden. F. B. 1044, U.S.D.A.
22. Fruit Varieties in Pennsylvania. Leaflet 45, The P.S.C.
23. Red Raspberry Culture In Pennsylvania. Cir. 178, The P.S.C.
24. Growing Black Raspberries and Blackberries in Pennsylvania. Cir. 170, The P.S.C.
25. Growing Strawberries in Pennsylvania. Cir. 181, The P.S.C.
26. Cherry Production in Pennsylvania. Cir. 172, The P.S.C.

27. Peach Culture in Pennsylvania. Cir. 179, The P.S.C.
28. Growing Clean Fruits in the Home Garden. Leaflet 92, The P.S.C.
29. Pruning Apple Trees in Pennsylvania. Cir. 220, The P.S.C.
30. Growing Fruit For Home Use. F. B. 1001, U.S.D.A.
31. Manufacture of Vinegar. Leaflet 63, The P.S.C.
32. Preparation of Sweet Cider. Leaflet 46, The P.S.C.
33. Feeding Chicks. Leaflet 44, The P.S.C.
34. Feeding Laying Hens. Leaflet 56, The P.S.C.
35. Feeding Systems for Laying Hens. Bul. 425, The P.S.C.
36. Supplying Water to the Laying Flock. Leaflet 80, The P.S.C.
37. Poultry Housing for Pennsylvania. Cir. 115, The P.S.C.
38. Summer Shelters for Pullets. Leaflet 40, The P.S.C.
39. Remodeling Farm Buildings For Poultry. Leaflet 81, The P.S.C.
40. Diseases and Parasites of Poultry. F. B. 1652, U.S.D.A.
41. Prevent Chick Troubles. Cir. 121, The P.S.C.
42. Egg Rooms That Help Maintain Egg Quality. Leaflet 85, The P.S.C.
43. Capon Production in Pennsylvania. Cir. 182, The P.S.C.
44. Raising Turkeys. Cir. 148, The P.S.C.
45. Dressing Poultry on Farms. Cir. 168, The P.S.C.
46. Canning Meat and Poultry at Home. Cir. 248, The P.S.C.
47. Preservation of Meats and Poultry in Frozen-Food Lockers. Ext. Bul. 223, Michigan State College, East Lansing.
48. High Quality Milk Production. Cir. 221, The P.S.C.
49. Cooling Milk and Cream on the Farm. F. B. 976, U.S.D.A.
50. Butchering and Curing Meat on the Farm. The Enterprise Mfg. Co. of Pa., Phila. 33.
51. Farm Dressed Pork. Cir. 239, The P.S.C.
52. Pork On The Farm. F. B. 1186, U.S.D.A.
53. Lamb and Mutton On The Farm. F. B. 1807, U.S.D.A.
54. Beef On The Farm. F. B. 1415, U.S.D.A.
55. Cashing In On Beef. Nat'l. Livestock and Meat Board, 407 S. Dearborn St., Chicago.
56. Cashing In On Pork. Nat'l. Livestock and Meat Board, 407 S. Dearborn St., Chicago.
57. Cashing In On Lamb. Nat'l. Livestock and Meat Board, 407 S. Dearborn St., Chicago.
58. Canning Meats. Cir. 469, N.J. Agrl. Exp. Sta., New Brunswick.

59. Beekeeping in Pennsylvania. Cir. 141, The P.S.C.
60. Diseases and Enemies of the Honeybee. Cir. 156, The P.S.C.
61. The Maple Products Industry of Pennsylvania. Bul. 280, The P.S.C.
62. Production of Maple Syrup and Sugar. F. B. 1366, U.S.D.A.
63. Family Food Plans for Good Nutrition. AWI-78, U.S.D.A.
64. Market Lists for Moderate-Cost and Liberal Meals. Bu. of Home Econ., U.S.D.A.
65. Home Canning Guide, Including Freezing, Dehydrating, Brining, and Winter Storage. Home Economics Institute, Westinghouse Electric and Mfg. Co., Mansfield, Ohio.
66. Wartime Canning of Fruits and Vegetables. AWI-41, Bu. of Human Nutrition, and Home Economics, Agrl. Research Administration, U.S.D.A.
67. Canning Tomatoes. AWI-61, Bu. of Human Nutrition and Home Economics, Agrl. Research Administration, U.S.D.A.
68. Home Canning of Fruits, Vegetables and Meats. F. B. 1762, U.S.D.A.
69. Steps in Canning. Leaflet 82, The P.S.C.
70. Canning Vegetables and Fruits. N. J. Agrl. Ext. Ser., College of Agriculture, New Brunswick.
71. Glass Jar Manufacturing Corporations. (Kerr-Ball-Atlas.)
72. Community Food Preservation Centers. Pub. 472, Bu. of Home Economics, U.S.D.A.
73. The Home Freezing of Farm Products. Bul. 611, N. Y. State Agrl. Exp. Sta., Geneva.
74. Locker Freezing of Fruits and Vegetables. Pop. Bul. 161, Agrl. Exp. Sta., Pullman, Wash.
75. How to Freeze and Store Foods. Frigidaire Div., Gen'l. Motors Corp., Dayton, Ohio.
76. Foods Suitable for Freezing Preservation and Locker Plant. Bul. 212, Georgia Agrl. Exp. Sta., Experiment, Ga.
77. Soybeans and Soybean Products as Food. Misc. Pub. 534, U.S.D.A.
78. Construction of Home and Community Dehydrators. Pa. State Council of Defense, Capitol, Harrisburg.
79. Drying Foods for Victory Meals. F. B. 1918, U.S.D.A.
80. Oven-Drying the Surplus from your Victory Garden.
81. Unfermented Grape Juice. F. B. 1075, U.S.D.A.
82. Farm Manufacture of Unfermented Apple Juice. F. B. 1264, U.S.D.A.

83. Pasteurizing Fruit Juices. N. Y. State Emergency Food Commission Nutrition Service, Ithaca, N. Y.
84. Atlas Book of Recipes. Hazel-Atlas-Glass Co., Wheeling, W. Va.
85. Fruit Spreads for Bread. N. Y. State Emergency Food Commission Nutrition Service, Ithaca, N. Y.
86. Home-made Jellies, Jams, and Preserves. F. B. 1800, U.S.D.A.
87. Home-made Fruit Butters. F. B. 900, U.S.D.A.
88. Making Fermented Pickles. F. B. 1438, U.S.D.A.
89. Making Vinegar in the Home and on the Farm. F. B. 1424, U.S.D.A.
90. A Handbook For Better Feeding of Livestock. Misc. Cir. 12, U.S.D.A.
91. Feed Consumption by Livestock. Cir. 670, U.S.D.A.
92. Canning Chicken. N. Y. State Emergency Food Commission, Nutrition Ser., Ithaca, N. Y.
93. Potato Culture in Pennsylvania. Cir. 167, The P.S.C.
94. Eighteen Varieties of Edible Soybeans. Bul. 453, Univ. of Ill., Agrl. Exp. Sta., Urbana.
95. Soybean Production in Illinois, Bul. 310, Univ. of Ill., Agrl. Exp. Sta., Urbana.
96. The Farm Freezing Plant, Station Bul. 399, Agrl. Exp. Sta., Oregon State College, Corvallis.
97. Food Preservation by Freezing. Ext. Bul. 593, Oregon State College, Corvallis.
98. Food Values on a Pound, Acre, and Man-Hour Basis for California Fresh Vegetables. Agrl. Exp. Sta., Berkeley 4, California.
99. Food Values on a Pound, Acre, and Man-Hour Basis for California Processed Vegetables. Agrl. Exp. Sta., Berkeley 4, California.
100. The Farmer Grades His Meat. AWI-69, U.S.D.A.
101. Take Care of Pressure Canners. AWI-65, U.S.D.A.
102. Food Fights For Freedom. War Food Administration, Wash., D. C.
103. National Wartime Nutritional Guide. NFC4, U.S.D.A.
104. Selecting Hens for Egg Production. F. B. 1727, U.S.D.A.
105. Production of Quality Milk and Cream on the Farm. Cir. 22, Agrl. Exp. Sta., South Dakota State College of Agriculture and Mechanic Arts, Brookings.

106. The Production of High Quality Milk. Bul. 2, Dept. of Health, Lansing, Mich.
107. Making Butter on the Farm. F. B. 876, U.S.D.A.
108. Making and Storing Farm Butter for Winter Use. Leaflet 9, U.S.D.A.
109. Making Ice Cream at Home. Cir. 185, The P.S.C.
110. Methods of Home Preparation of Soft Cheese. V-Cir. 10, State College of Washington, Agrl. Exp. Sta., Pullman.
111. Making American Cheese on the Farm. F. B. 1191, U.S.D.A.
112. Extracting Equipment for the Honey House. Cir. 188-Revised, The P.S.C.
113. Home Production of the Family's Food Supply. Cir. Bul. 140, Agrl. Exp. Sta., Michigan State College, East Lansing.
114. Milk Goats. F. B. 920, U.S.D.A.
115. Purina Goat Book. Purina Mills, St. Louis, Mo.
116. Dairy Goat Management. Cir. 418, N. J. Agrl. Exp. Sta., New Brunswick.
117. Raising Rabbits for Meat. Cir. 249, The P.S.C.
118. Winter Vegetable Storage. Cir. 530, College of Agriculture, Univ. of Illinois, Urbana.
119. Growing Fruit For Home Use. Cir. 524, College of Agriculture, Univ. of Illinois, Urbana.
120. Fish For Food from Farm Ponds. F. B. 1938, U.S.D.A.
121. Frozen Foods—How To Prepare, Freeze, Package, Cook. Gen'l. Electric, Consumers Institute, Bridgeport, Conn.
122. Building The Farm Refrigeration Plant. Ext. Bul. 257, Washington State College of Agriculture, Pullman.
123. Vegetable Storage Room. 20M-9-43, University Farm, St. Paul, Minn.
124. Home Storage of Vegetables and Fruits. F. B. 1939, U.S.D.A.
125. The Food We Live By. NFC-5, U.S.D.A. (Food Distribution Administration).
126. Your Food and You. Leaflet 76, The P.S.C.
127. Reports of Conference Committees Adopted by Conference on Home Food Preservation. Chicago, Ill., Jan. 13-15, 1944, Ext. Ser. War Food Administration, U.S.D.A.
128. Freezing Vegetables and Fruits for Home Use. Ext. Cir. 252, The P.S.C.
129. Growing Vegetables for Home Use. Cir. 253, The P.S.C.
130. Freezing Meat and Poultry for Home Use. Cir. 251, The P.S.C.
131. Package Bees. Cir. 426, N. J. Agrl. Exp. Sta., New Brunswick.

132. Start Them Right! AWI-45, U.S.D.A.
133. How To Stop Farm Accidents. U. S. Department of Commerce, Wash., D. C.
134. Safety Guide for the Farm and Home Front. General Mills, Inc. Minneapolis, Minn.
135. Stop Carelessness—Prevent Accidents. International Harvester Co., Chicago, Ill.
136. Farm Safety Review. September-October, 1943, Nat'l. Safety Council, Inc., 20 N. Wacker Drive, Chicago 6, Ill.
137. Watch Your Step—Farm Safety For National Defense. Misc. Pub. 481, U.S.D.A.
138. Suggestions For The Development of Safety in Food Production War Training Courses. Dept. of Public Instruction, Harrisburg, Pa.
139. How To Stop Home Accidents. U. S. Dept. of Commerce, Wash., D. C.
140. Accidents And Opportunity. U. S. Dept. of Commerce, Wash., D. C.
141. A Community Dehydrator. Bul. 448, The P.S.C.

Visual Aids (C)

1. 1944 Outlook Charts (Dairy, Poultry, and other Livestock; Vegetables, Fruits, and other Crops). Bu. of Agrl. Edc., U.S.D.A.
2. For Health...eat some food from each group...every day! U.S. Govt. Chart, U.S.D.A.
3. The Basic Seven. Chart, Sealtest Laboratory Kitchen, 230 Park Avenue, N. Y.
4. Set of 10 Menu Charts showing Good and Bad Breakfasts, Lunches, and Dinners. Nat'l. Dairy Council, Chicago, Ill.
5. Milk...The Best Foundation for an Adequate Diet—Showing Values in one quart of milk. Philadelphia Dairy Council
6. Set of 10 Charts—"Get The Most From Your Food". U. S. Govt. Printing Office, Wash., D. C.
7. Meat On The Home Front. Chart Series, Nat'l. Livestock and Meat Board, Chicago, Ill.
8. Set of 6 Charts—"What About Enrichment." Home Service Dept., General Mills, Inc., Minneapolis, Minn.
9. The Family Vegetable Needs and The Home Garden. Cir. 234, The P.S.C.

10. Pennsylvania Fertilizer Chart. Armour Fertilizer Works, Baltimore, Md.
11. Vegetable Seed Catalogs from several sources.
12. Vegetable variety specimens.
13. Seed germination equipment (rag doll, dirt, blotter, etc.).
14. Plant-Food Utilization Chart. American Potash Institute, Inc., 1155-16th St., N. W., Washington, D. C.
15. Samples of lime and fertilizer.
16. Sampling and Testing the Soil. Chart, Nat'l. Lime Assn., Wash., D. C.
17. Vegetables. Chart 13, The Nat'l. Fertilizer Assn., Wash., D. C.
18. Save and Reinforce Manure. Chart 5, same source as 17.
19. Samples and illustrations of tillage equipment.
20. Samples of spray and dust materials for vegetables.
21. Samples of seed treaters and seed treating materials.
22. Samples and illustrations of sprayers and dusters for vegetables.
23. Set of 12 Colored Picture Sheets of Important Vegetable Insects. Bu. of Entomology and Plant Quarantine, U.S.D.A.
24. Posters 49,50,51,52,53 of Cabbage and Cauliflower Diseases. U.S.D.A.
25. Posters 55 and 56 of Cucumber Diseases. U.S.D.A.
26. Posters 1 to 13 of Potato Diseases. U.S.D.A.
27. Posters 16 to 24 of Tomato Diseases. U.S.D.A.
28. Posters 25,26,54,58 of Pepper, Eggplant, Radish and Turnip, and Squash Diseases. U.S.D.A.
29. Lime Need of Soils. Eastern Half of U.S., Chart, Nat'l. Lime Assn., Wash., D. C.
30. "pH and Its Application." Chart, same source as 28.
31. Variety specimens of potatoes.
32. Samples of potato seed pieces.
33. Legumes. Chart, The Nitragin Co., Inc., Milwaukee, Wis.
34. Variety specimens of edible soybeans.
35. Samples of soybean products—flour, milk, prepared foods.
36. Plant and nursery catalogs from several sources.
37. Samples and illustrations of pruning equipment.
38. Samples and illustrations of sprayers and dusters for fruit.
39. Samples and illustrations of spray and dust materials for fruit.

40. Poultry House Blue Prints. Everybody's Poultry Magazine, Hanover, Pa.
41. Planning Good Houses. American Poultry Journal, 536 S. Clark St., Chicago, Ill.
42. The Vitamin Chart With Emphasis on Poultry Nutrition. The Beacon Milling Co., Inc., Cayuga, N. Y.
43. Summary of Vitamins Required by Four-Footed Animals and Poultry. Standard Brands, Inc., 595 Madison Ave., N. Y.
44. Color Pictures of Poultry. American Poultry Journal, 536 So. Clark St., Chicago, Ill.
45. Beacon Egg Quality Merchandiser. The Beacon Milling Co., Inc., Cayuga, N. Y.
46. Fowl (avian) tuberculosis. Poster, U.S.D.A.
47. Pullorum disease. Poster, U.S.D.A.
48. Samples of feed, grit, and minerals.
49. Samples of vitamin carriers.
50. Catching hook and catching crate.
51. Egg candler and egg scales.
52. Samples of eggs—showing various qualities.
53. Samples of poultry feeders and waterers.
54. Samples of brooder thermostats.
55. Samples of poultry record forms, Commercial Feed Companies.
56. Eggs, the Sunshine Food. The New England Poultry and Egg Institute, 711 Boylston Street, Boston 16, Mass.
57. Samples of killing and dressing equipment.
58. Caponizing equipment.
59. Poultry Journals.
60. Raising the Dairy Calf. Film Strip, Series 378, U.S.D.A.
61. The Production of Clean Milk. Film Strip, Series 175, U.S.D.A.
62. Feed Samples (concentrates, supplements, hay, pasture and silage).
63. Dairy Farm Improvement of Concrete. Portland Cement Assn., Phila., Pa.
64. Dairy Cattle Breed Journals.
65. Materials from Dairy Cattle Breed Assn. (see address—De-Laval Diary)

66. Wilson's Meat and By-Product Chart of Cattle—also Beef Cuts Chart—Armour, Cudahy, Swift, Wilson & Co., or Nat'l. Livestock and Meat Board, Chicago, Ill.
67. Samples of grain for beef cattle.
68. Samples of protein supplements for beef cattle.
69. Samples of hay and silage.
70. Poster—U.S. Grades of slaughter cows. Bu. of Mkts., U.S.D.A.
71. Poster—U.S. Grades of slaughter heifers. Bu. of Mkts., U.S.D.A.
72. Poster—U.S. Grades of slaughter steers. Bu. of Mkts., U.S.D.A.
73. Material from Beef Breed Associations. See DeLaval Diary.
74. Beef Breed Journals.
75. Pictures and models of hog houses.
76. Pictures and models of various types of swine equipment.
77. Samples of protein supplements.
78. Samples of mineral supplements.
79. Slaughtering tools.
80. Pictures or diagrams of slaughtering equipment.
81. Pictures of ideal type gilts, sows, and boars.
82. Pliers for removing needle teeth.
83. Ear-notching shears.
84. Drenching, dipping, oiling, and spraying equipment.
85. Pork Cuts Chart. Armour, Cudahy, Swift, Wilson & Co., or Nat'l. Livestock and Meat Board, Chicago, Ill.
86. Poster—U.S. Grades of Slaughter Swine. Bu. of Mkts., U.S.D.A.
87. Material from Swine Breed Associations. See addresses in DeLaval Diary.
88. Swine Breed Journals.
89. Wilson's Meat and By-Product Chart of Swine. Wilson & Co., Chicago, Ill.
90. Material from Sheep Breed Assns. See DeLaval Diary.
91. Sheep Breed Journals—Wool Journals.
92. Samples of lambing pens.
93. Samples of supplies essential for lambing time.
94. Samples of castrating and docking tools.
95. Stewart Machine Shearing Chart. Chicago Flexible Shaft Co., 5600 Roosevelt Road, Chicago, Ill.

96. Samples of shearing equipment.
97. Samples of drenching equipment.
98. Samples of hoof trimming equipment.
99. Samples of wool tying material.
100. Plans, models and samples of sheep barn equipment.
101. Pictures of ideal type ewes, rams, and lambs.
102. Lamb Cuts Chart. Armour, Cudahy, Swift, Wilson & Co., or Nat'l. Livestock and Meat Board, Chicago, Ill.
103. Poster—U.S. Grades of Slaughter Lambs. Bu. of Mkts., U.S.D.A.
104. Wilson's Meat and By-Product Chart of Sheep. Wilson & Co., Chicago, Ill.
105. Samples of bee equipment.
106. Samples of surplus honey (comb and extracted).
107. Samples of maple sugaring equipment.
108. Samples of maple products (syrup and sugar).
109. Samples of corn, wheat, and buckwheat for seed.
110. Samples of corn, wheat, and buckwheat for milling.
111. Samples of products milled from corn, wheat, and buckwheat.
112. Health Education Materials—1944. Philadelphia Inter-State Dairy Council, 20th at Race Street, Philadelphia 3. A compilation of source materials including posters, charts, booklets, leaflets, motion pictures, etc.

VI. SUGGESTED APPROVED PRACTICES WHICH SHOULD DEVELOP FROM THE COURSE

1. Select the phase of family food production adapted to home situations.
2. Plan a family food budget that will amply meet the needs of the family for an optimum diet throughout the year.
3. Plan the production, conservation, and processing of food for family use in accordance with the family food budget.
4. In accordance with the family food budget planned to meet family needs, produce, conserve, and process sufficient, high-quality quantities of the following—
 - a. Vegetables
 - b. Fruits and fruit products
 - c. Eggs and poultry meat
 - d. Milk and milk products
 - e. Meats and meat products
 - f. Honey, and maple products
 - g. Cereal grains
5. Practice safety precautions in all operations involved in producing, conserving, and processing food for family use.
6. Produce, conserve, and process food for family use as economically as possible by utilizing present facilities and materials efficiently and effectively.
7. Keep livestock healthy by preventing and/or controlling common diseases and parasites, and by practicing sanitary measures.
8. Market surplus food products in accordance with grade, class, and O.P.A. regulations.
9. Choose disease-free seed and plants of adapted varieties.
10. Select superior type livestock, free from disease and with high production potentialities.
11. Maintain and economically increase the organic content and productivity of soils for crop production.



A000019037462

V630.7

Pa. state collere.

P38ma

no.15

AUTHOR

Sch. of agrie. Dept. of

TITLE

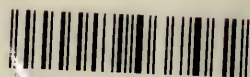
agricultural education.

V630.7

P38ma

no.15

Aar



A000019037462